

WORK PERMIT # _____

ILR / Work Order # 382-382 Dept PHENIX Construction Job # _____ Tracking # 296A Account # 89195

1. Work requester fills out this section

Requester: Collins, T Date: 10-7-98 Dept/Div/Group: PHENIX
 Other Contact person (if different from requester): _____ Phone No. 7777
 Start Date _____ Estimated End Date _____
 Description of Work / Problem: REMOVE GAS VESSEL FROM Bldg 832
& DELIVER SAME TO Bldg 1008 -
REF: FSU-RA-PO8, DOES NOT INCLUDE ANY
WORK AT 1008
 Building 832 Room HULL BAY Equipment RICH VESSEL

2. Work requester, work provider, and ES&H (as necessary) jointly fill out this section or attach applicable hazard analysis

Hazard Analysis

RADIATION CONCERNS ☒ NONE ☐ Activation ☐ Airborne ☐ Contamination ☐ Radiation ☐ OTHER _____
☐ Special nuclear materials involved (ES&H 3.7.0), notify Group Leader, Isotope Special Materials Group (SSD)
☐ Fissionable materials involved (ES&H 3.7.0), notify Laboratory Criticality Officer (DAT)

SAFETY CONCERNS ☐ NONE ☐ Corrosive ☐ Flammable ☒ Material Handling ☐ Rigging/Critical Lift
☐ Asbestos ☐ Cryogenic ☐ Fumes/Mist/Dust ☐ Noise ☐ Toxic
☐ Biohazard ☐ Electrical ☐ Heat/Cold Stress ☐ Non-ionizing Radiation ☐ Vacuum
☐ Chemicals ☐ Elevated Work ☐ Hydraulic ☐ Oxygen Deficiency ☐ OTHER _____
☐ Confined Space ☐ Excavation ☐ Lasers ☐ Penetrating Fire Wall
☐ Adding / Removing Walls or Roofs ☐ Lead ☐ Pneumatic

ENVIRONMENTAL CONCERNS

☒ NONE ☐ OTHER _____
☐ Hazardous materials will be released to the air via a new/modified ventilation system, hood, or stack (ES&H 6.1.4 and 6.1.5) Notify Project Engineer, Environmental Protection Office (ES&H Services)
☐ New hazardous materials will be released via the liquid effluent system to the sewage treatment system or an impoundment (ES&H 6.1.2) Notify Regulatory Compliance Engineer, Environmental Protection Office (ES&H Services) for permit.

Waste Generated ☒ NONE ☐ Clean Waste ☐ Hazardous Waste ☐ Radioactive Waste ☐ Mixed Waste
 Waste disposition by: _____

Based on analysis above, the Review Team determines the job hazard category:

JOB HAZARD CATEGORY: X MODERATE HIGH

Job Safety Analysis (JSA) Required? No Yes (Please attach)

Work Controls

WORK PRACTICES ☐ NONE ☐ Containment ☐ IH Survey ☐ Scaffolding - requires inspection
☐ Back-up Person/Watch ☐ Exhaust Ventilation ☐ Lockout/Tagout ☒ Time Limitation
☐ Barricades ☐ HP Coverage ☐ Posting/Warning Signs ☐ OTHER _____
 PROTECTIVE EQUIPMENT ☐ NONE ☐ Ear Plugs ☐ Gloves ☐ Lab Coat ☒ Safety Glasses
☐ Coveralls ☐ Ear Muffs ☐ Goggles ☐ Respirator ☐ Safety Harness
☐ Disposable Clothing ☐ Face Shield ☐ Hard Hat ☐ Rubbers ☐ Safety Shoes ☐ OTHER _____
 PERMITS REQUIRED Initial next to box to show who has responsibility to generate the permit
☐ Confined Space Entry (ES&H 2.2.4) ☐ Digging/Core Drilling (ES&H 1.18.0) ☐ Impair Fire Protection Sys. (ES&H 4.2.0)
☐ Cutting/Welding (ES&H 4.3.0) ☐ Electrical Working Hot (ES&H 1.5.0) ☐ Rad Work Permit (BNL RadCon Manual)
☐ Dept/Div Specific Permit ☐ Dept/Div Specific Permit
 DOSIMETRY/ MONITORING ☒ NONE ☐ O₂/Combustible Gas ☐ Self-reading Dosimeter
☐ Heat Stress Monitor ☐ Passive Vapor Monitor ☐ Sorbent Tube/Filter Pump
☐ Noise Survey/Dosimeter ☐ Real Time Monitor ☐ TLD ☐ OTHER _____

Training Requirements (List below any location specific training requirements)

3. Both work requester and work provider coordinate on work plan (use attachments for detailed plans)

Work Plan (procedures, timing, personnel, etc.):

① SKILL OF CRAFT


② WORK ONLY by PLANT RIGGERS

Special Working Conditions Required:

Operational Limits Imposed:

Post Work Testing Required:

Reviewed By: *Note: Primary facility reviewer will dictate the other required signatures

Title	Name (print)	Signature	Life #	Date
Primary Reviewer	J. COLLINS		14795	10-7-98
ES&H Services	S. KANE		19894	10/14/98
Other *	J. D'AMLEY		21336	

4. Job site personnel fills out this section

Note: Signature indicates personnel performing work have read and understand the hazards and permit requirements

Job Site Supervisor	Contractor Supervisor
Workers: _____ Life # _____	Workers: _____ Life # _____
_____	_____
_____	_____
_____	_____
_____	_____

5. Work Requester or designee fills out this section

Conditions are Appropriate to Start Work: (Work permit has been reviewed, work controls are in place, and site is ready for job.)

Name	Signature	Life #	Date
_____	_____	_____	_____

6. Work Requester determines if Post Job Review is required

____ YES ____ NO

Post Job Review by ES&H Coordinator: _____ Life #: _____ Date: _____

Other Closeout Signatures (as necessary):	Name	Initial	Life #:	Date:
_____	_____	_____	_____	_____
_____	_____	_____	_____	_____

7. Worker provides feedback

Worker Feedback:

Supervisor: Is worker feedback required on this job? ____ NO ____ YES (attach feedback form)

Worker: Any feedback on safety concerns or on ways to improve the job? ____ NO ____ YES (ask for form if not attached)

CRITICAL LIFT REVIEW REQUEST FORM

Person Requesting Critical Lift

Print Name W. STOKES Department/Division PHENIX Phone 2807

PERSON IN CHARGE (PIC) May be same person as person requesting Critical Lift.

Print Name J. O'MALLEY

PIC Must meet the definitions of the DOE Hoisting and Rigging Handbook for appointed, designated and qualified. PIC shall be present at the lift site during the entire lifting operation.

ITEMS TO BE LIFTED

RICH DETECTOR WITH LIFTING FRAME ATTACHED

DETERMINING FACTOR FOR CRITICAL LIFT

VALUE, SCHEDULE IMPACT,

A lift shall be designated as a critical lift if collision, upset, or dropping could result in any one of the following.

- 1) Unacceptable risk of personnel injury or significant adverse health impact.
- 2) Significant release of radioactive or other hazardous material or other undesirable conditions.
- 3) Undetectable damage that would jeopardize future operations or the safety of a facility.
- 4) Damage that would result in unacceptable delay to schedule or other significant program impact such as loss of vital data.

A lift should also be designated as critical if the load requires exceptional care in handling because of size, weight, close-tolerance installation, high susceptibility to damage, or other unusual factors.

OPERATING EQUIPMENT TO BE USED

Type BLDG 832 OVERHEAD CRANE Load Indicating Devices N/A
Capacity 30T Boom Length If applicable N/A
Date Of Annual Inspection On BNL Cranes UNKNOWN

SPECIFICATIONS OF ITEMS TO BE MOVED

If specifications are to be shown on attached documents check here. ☐

Weight 20,000 lb How Was Weight Determined WEIGHED w/ SCALE
Dimensions ~ 19' L x 20' W x 7.5' D

Center Of Gravity - Is CG Located In Approximate Center of Load SEE FIG 1 ATTACHED
If not, attach a drawing showing CG location.

Hazardous, Radioactive Or Toxic Materials Present NO

RIGGING EQUIPMENT TO BE USED

If rigging equipment is to be shown on attached documents check here.



Type Of Slings "TUFLEX" TYPE ENDLESS LOOP Rated Capacity 10 T MIN
Spreader Bars / Below The Hook Lifting Devices Give BNL drawing number if available.
LIFTING FRAME 002-0207-019 RATED 22,000 lbs
AGS SPREADER BAR Rated Capacity 4DT
Connecting Accessories SHACKLES Rated Capacity 20 T MIN
CHAIN FALLS " " 5 T MIN

LIFTING OPERATION

If lifting operation details are to be shown on attached documents check here.



FIGS 1 & 2

Method Of Connecting Rigging To Load SLINGS, CHAIN FALLS, SHACKLES

Sling Angles ~20° OFF VERT Rated Load At These Angles 18,793 lb (SLINGS)
9,397 lb (CHAIN FALLS)

Mobile Crane Only - - -	Operating Range	Point Of Lift	Point Of Delivery
	Boom Radius	_____	_____
	Crane Capacity	_____	_____
	% Of Capacity	_____	_____

Other Factors That May Affect Safety Of Lifting Operation. WHEN TILTING
VESSEL BOTH CHAINFALLS MUST BE EXTENDED, ROUGHLY,
IN UNISON TO PREVENT EXCESSIVE TWISTING OF
DETECTOR AND LIFT FRAME

CONTRACTOR EQUIPMENT

Safety Inspection Of Equipment Performed by BNL authorized person. Date _____

Print Name Of Inspector _____ Comments _____

Operators Experience On This Type Equipment _____

SIGNATURE APPROVAL

BNL Inspector Of Contractor Equipment If applicable _____

Person In Charge (PIC) James L. Dralley

Responsible Manager Or Designee [Signature]

ESH And Quality Lou Bower

PRE-LIFT MEETING

Date 10-21-98 Time 1500 Location 83011 - L135

*FLORIDA STATE UNIVERSITY
NUCLEAR PHYSICS DEPARTMENT*

RICH PROJECT

**GAS VESSEL HANDLING:
VESSEL TRANSPORT FROM 832
TO 1008
FSU-RP-P08**

**Florida State University
Tallahassee, FL 32306
(850)644 -4100**

GAS VESSEL HANDLING: Transport and loading Procedures

CONTENTS

- I. INTRODUCTION**
- II. SCOPE**
- III. RESPONSIBILITIES**
- IV. PRE TRANSPORT AND LOADING PROCEDURE**
- V. TRANSPORT PROCEDURE**

I. INTRODUCTION

This procedure is for the safe handling of the Rich Gas Vessel while transporting the rich gas vessel from building 832 to building 1008

II. SCOPE

This procedure gives the minimum requirements for moving the gas vessel from building 832 to building 1008. Lifting the vessel on the transport truck with the appropriate cranes and lifting gear. It applies to BNL personnel, outside contractors, contract labor and to personnel designated to operate equipment covered by this procedure. Safety standards provided by BNL for Material Handling (1.6.0), Required training and certifications (1.6.1), DOE -STD-1090-96 (REV1) sec 3.3, 3.4 will apply to this procedure.

III. RESPONSIBILITY

1. Florida State University (FSU): A qualified representative of FSU will be on site as a consultant during the following operations
2. BNL: BNL will provide appropriate personnel for hoisting, rigging, crane operation, line supervision, and the appropriate equipment with verifications for the following operation:

Equipment BNL should provide:

Crane hook in building 832, rated for 25,000 lb Min.

Two 12' long slings rated for 25,000 LB min (to lift gas vessel).

Two 10,000 lb. chain falls (to lift gas vessel).

Hardware to connect slings to crane hook.

Shackles rated 20,000 min.

Spreader bar rated for 15 ton min.

Flat bed truck.

Escort for move.

FIG. 1

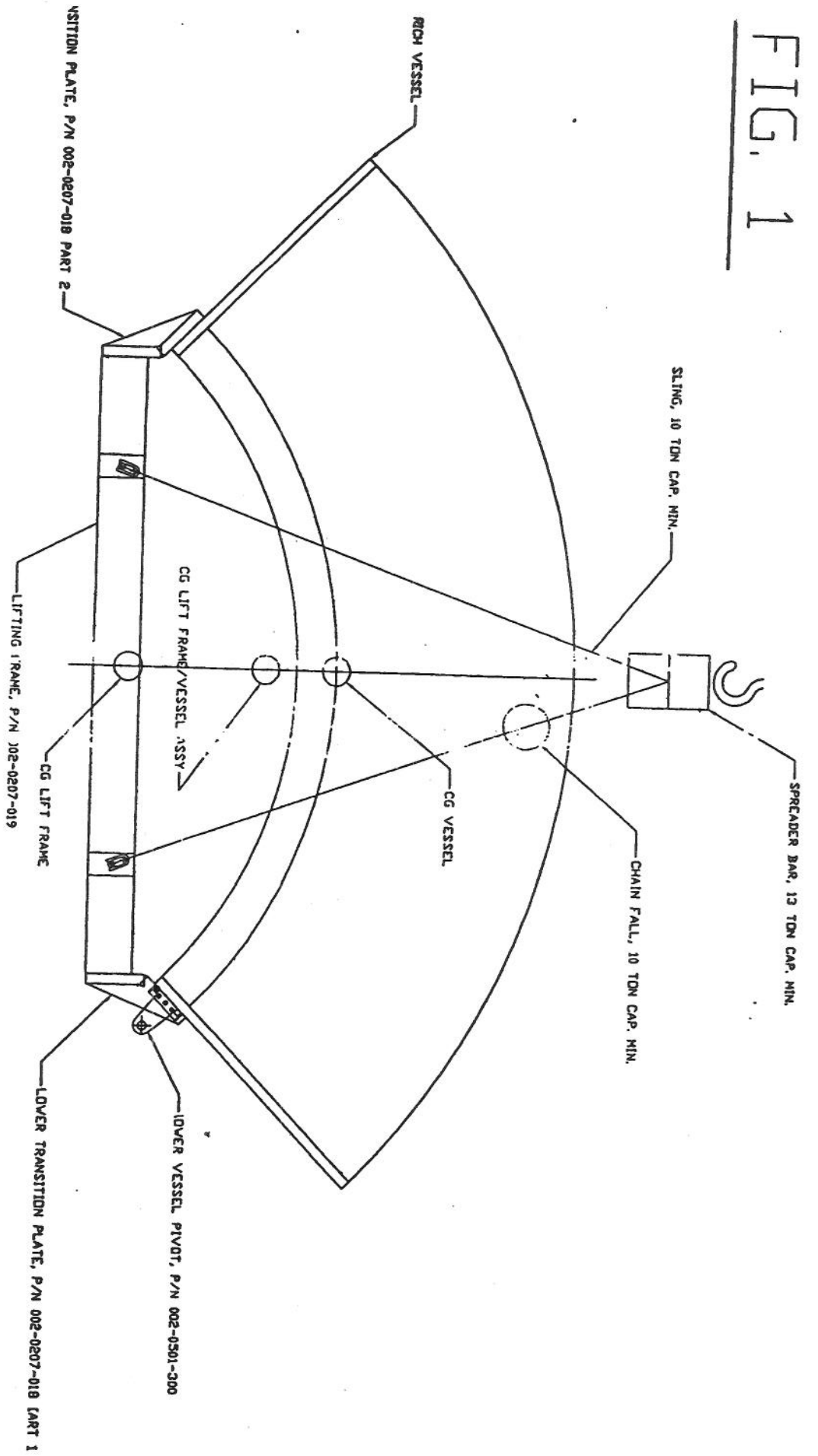
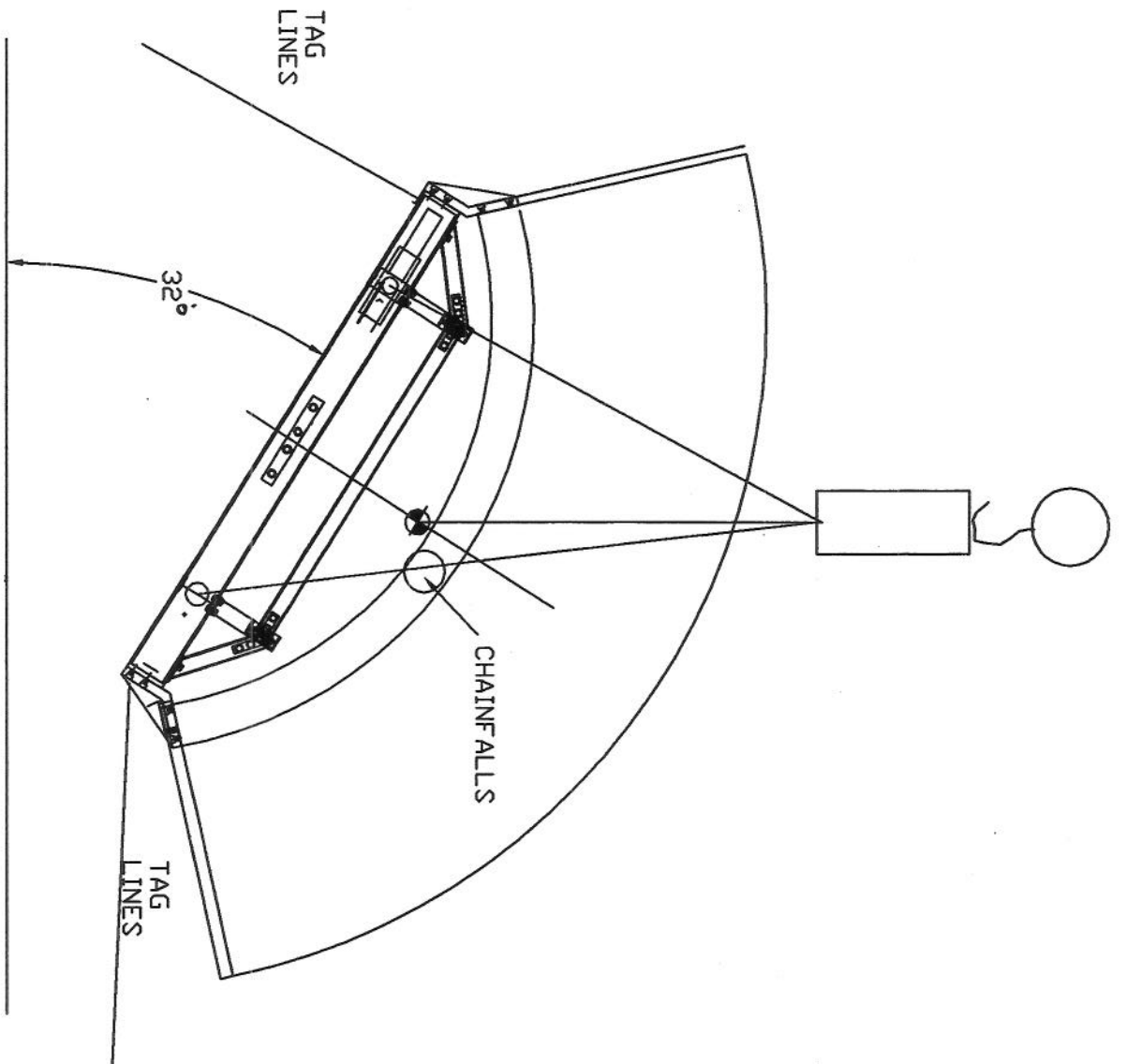


Fig 2



TOTAL LOAD ON TRUCK
58500 LBS

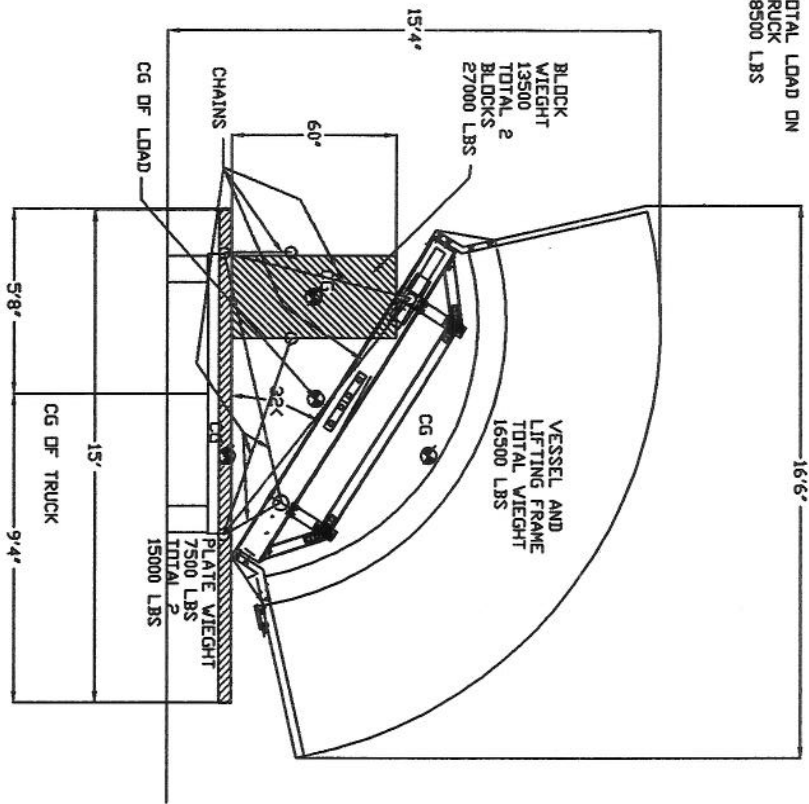


Fig 3

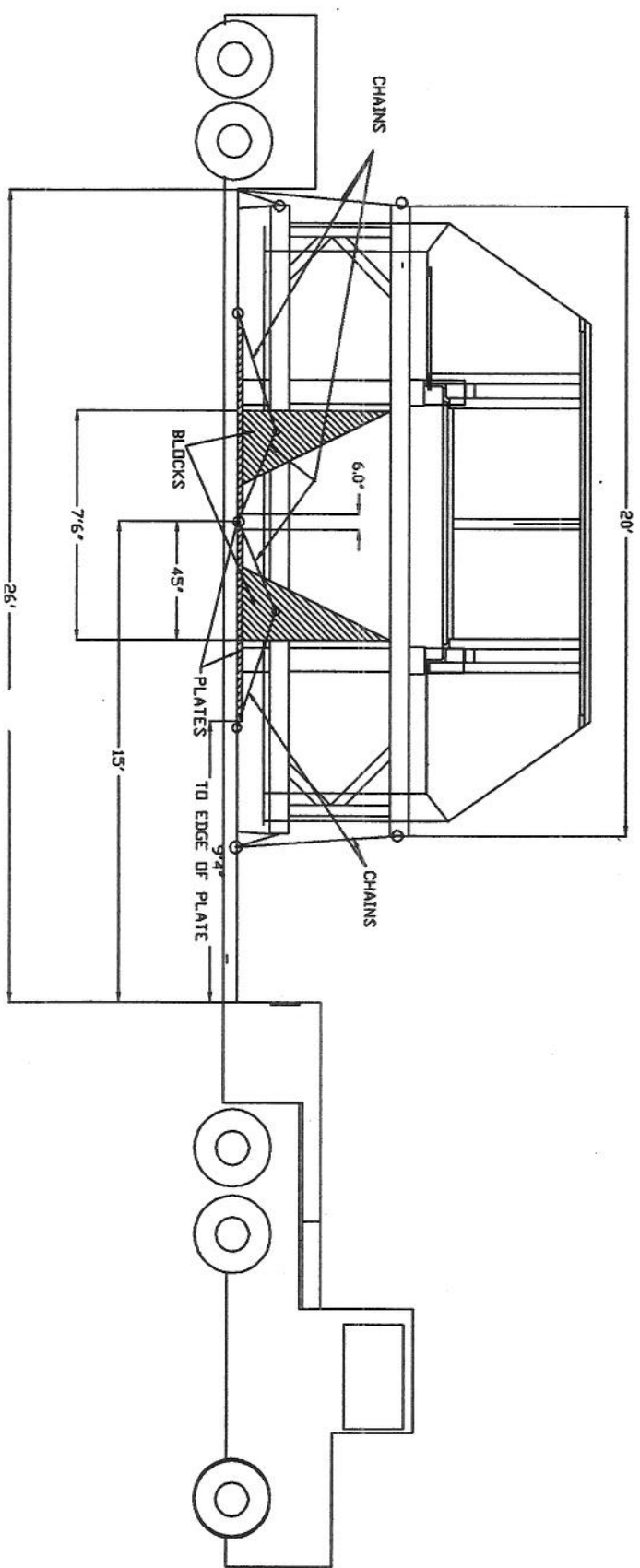
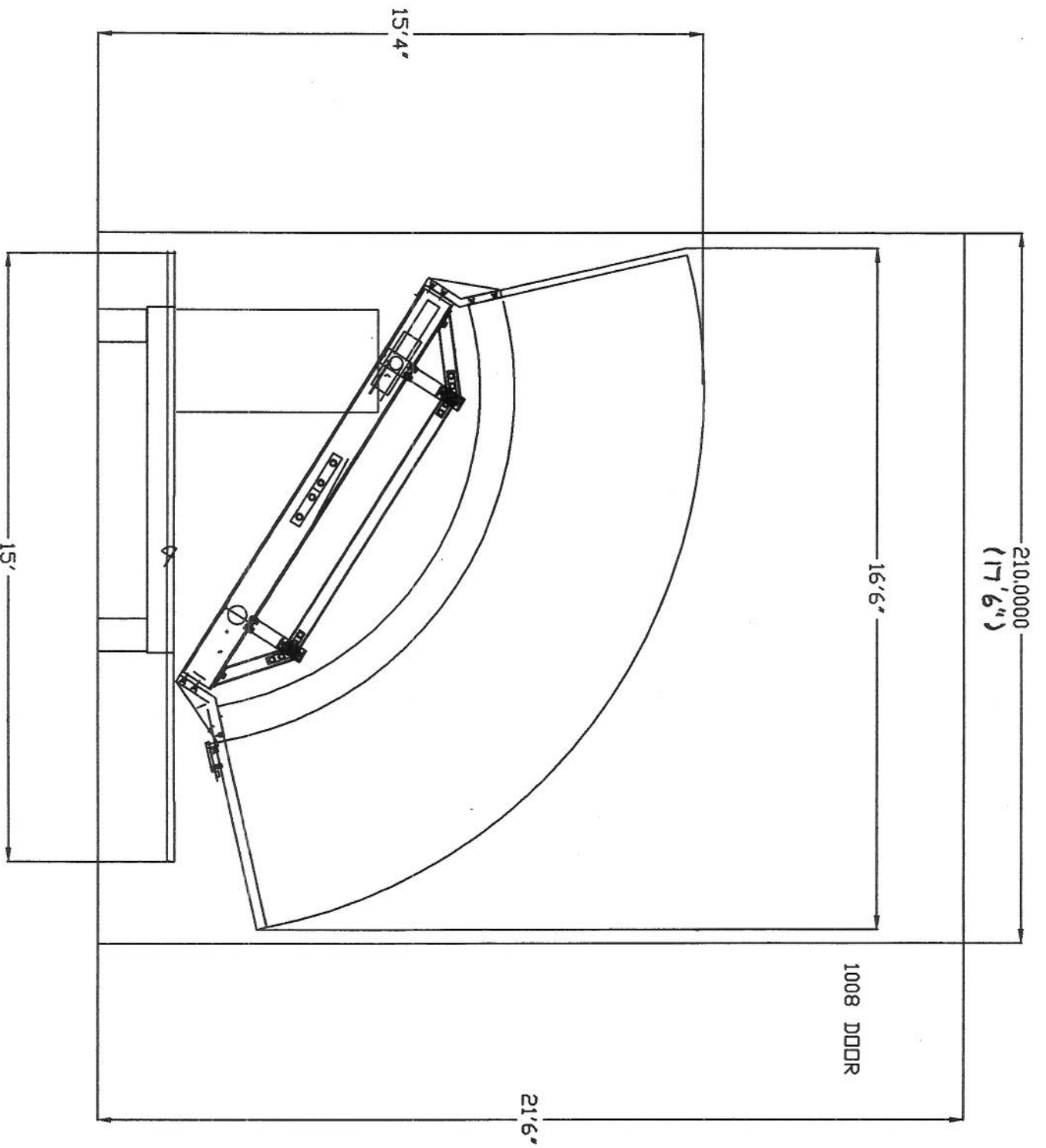


Fig 4



CRITICAL LIFT REVIEW REQUEST FORM

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PERSON IN CHARGE (PIC) *May be same person as person requesting Critical Lift.*

Print Name _____

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A lift should also be designated as critical if the load requires exceptional care in handling because of size, weight, close-tolerance installation, high susceptibility to damage, or other unusual factors.

OPERATING EQUIPMENT TO BE USED

Type _____ Load Indicating Devices _____

Capacity _____ Boom Length *If applicable* _____

Date Of Annual Inspection On BNL Cranes _____

SPECIFICATIONS OF ITEMS TO BE MOVED

If specifications are to be shown on attached documents check here. ☐

Weight _____ How Was Weight Determined _____

Dimensions _____

Center Of Gravity - Is CG Located In Approximate Center of Load _____

If not, attach a drawing showing CG location.

Hazardous, Radioactive Or Toxic Materials Present _____